

Email Address: bberkovski@yahoo.com

firstname: Boris Berkovski

sourceName: hsf

Comments: The Letter to Dr. Norman Augustine Commission

Dr. B. Berkovski

Taking into account the information below, I wish to successfully realize the delivery of my opinions in this letter to the Commission and the Government.

From one perspective - LM and its subcontractors - Orbital Science Corporation, ATK and others - are doing a great job, such as creating new tools (replacing the Space Shuttles) for transportation to the ISS, and for exploration to the Moon, Mars and beyond, i.e. the development of the "Constellation". These development paths are simply realizations of the "new" old Course of NASA operations - development of Vertical Launch/Vertical Landing (VLVL) systems, which are replacing Vertical Launch Horizontal Landing (VLHL) system like the Space Shuttle.

The Fathers of this Course of NASA operation were Dr. Werner von Braun, and former Director of NASA Dr. M. Griffin - two great men in their fields. In Dr. Griffin's point of view, it is not necessary to change the Course of NASA's operational approach.

Personally, I am very worried about this Course (especially after visiting the public hearing at the Commission meeting on August 5, 2009 in Carnegie Institute) and deeply disagree with the NASA's General Approach - using VLVL systems for the broad Exploration of Space as single operational choice.

Why? Because, from an other perspective:

1. After witnessing the meeting on August 5, 2009, I believe it is very difficult for N. Augustine to:
 - be independent from the Past (LM, NASA, traditions, success) and the Present in this case;
 - make the right decisions for the Future of the Space Exploration on the basis of a Commission of only 10 Experts - a very small group operating within very strong restrictions upon actions, with extremely tight time-constraints.
2. This VLVL system is and will be yet a more expensive, less reliable and a more dangerous system:
 - * than the VLHL (see, for example article "Soyuz investigation lands with a thud" in June 2009 issue of Aerospace America - pp 38-42)
 - * for EXTENSIVE space exploration, when the number of flights will be hundreds per year and emergency cases will be more often
 - * for super heavy Rockets, delivering very heavy payloads into space (bright example - 4 unsuccessful launches of the Russian Rockets N-1 Moon Program)
3. The existence of a group of new generation "Explorers" of Space who likes to take a piece of the financial "pie" but who do not change the main Course of operational development - i.e. VLVL
4. This letter is based upon my professional experience and presents my own views to the Commission that NASA should change both its Course and Approach - replace VLVL systems by HLHL systems, because HLHL systems will be much more inexpensive, efficient and significantly increase reliability.
5. There are past and present examples of successful HLHL projects in USA, Russia

- Ukraine, UK, which have excellent Take off/Landing Characteristics. These Projects have been initiated by the Laboratory of Complexes in Russia (my old affiliate), Rockwell International, Hotol, Mria - Hotol and Buran, Virgin Galactic and so on.

6. New Technologies will permit development of much more inexpensive ways to use HLHL, for example:

- * Wing-in-Surface Effect vehicles for launch and landing;
- * Super powerful Jet Engines - GE-90-115 as an example and new ones;
- * Aircushion chassis using Jet Engines kind of GE-90-115;
- * Take off/Landing using Aircushion chassis and open spaces of lakes, seas, oceans.

Boris Berkovski, PhD

P.S. These excerpts are part of a Table from Wikipedia - they are good examples of typical VLVL problems:

Date

Place

Death(s)

Kind of disaster

May 17, 1930 Berlin, Germany

1 Max Valier killed by rocket engine explosion

October 10, 1933 Germany

3 Explosion in rocket manufacturing room of Tiling

July 16, 1934 Kummersdorf, Germany

3 Ground test engine explosion

1944? Tuchola Forest, German-occupied Poland

7 An A4-rocket crashes at a test launch in a trench. Several soldiers who were in the trench were killed

October 24, 1960 Baikonur Cosmodrome, USSR

126 The Nedelin catastrophe; Explosion of R-16 ICBM on launch pad (not space related)

April 14, 1964 Cape Canaveral, USA

3 Delta rocket ignited in assembly room, killing 3 technicians and injuring 9 others. The ignition was caused by a spark of static electricity

May 7, 1964 Braunlage, West Germany

3 Mail rocket built by Gerhard Zucker exploded and debris hit crowd of spectators

June 26, 1973 Plesetsk Cosmodrome, USSR

9 Launch explosion of Cosmos-3M rocket

March 18, 1980 Plesetsk Cosmodrome, USSR

48 Explosion while fueling up a Vostok rocket booster

March 19, 1981 Cape Canaveral, USA

2 Anoxia during preparations for STS-1[7]

January 28, 1986 Cape Canaveral, USA

7 Space Shuttle Challenger disaster occurred when Space Shuttle Challenger broke apart 73 seconds into its flight

January 26, 1995 Xichang, China

6+ Long March rocket veered off course after launch [1]

May 5, 1995 Guiana Space Centre, French Guyana

2 Anoxia; Luc Cella and Jean-Claude Dhainaut died during an inspection in the umbilical mast of the launchpad

February 15, 1996 Xichang, China

56+ Intelsat 708 Satellite. Long March rocket veered off course 2 seconds after launch, crashing in the nearby village and destroying 80 houses, according to the official Chinese count, killing 56 people, but with U.S. defense intelligence officials estimating 200 dead. Because Intelsat 708 contained sophisticated communications and encryption technology, and because portions of the debris were never located by the satellite's developers and may have been recovered by the government of People's Republic of China, Intelsat and the Clinton administration suffered criticism in the United States for allowing a possible technology transfer to China.[8]

October 15, 2002 Plesetsk Cosmodrome, Russia

1 A Soyuz-U exploded 29 seconds after launch, killing a soldier, Ivan Marchenko, and injuring 8 others. Fragments of the rocket started a forest fire nearby, and a Block D strap-on booster caused damage to the launchpad

August 22, 2003 Alcântara, Brazil

21 Explosion of an unmanned rocket during launch preparations (see Brazilian rocket explosion)

titleOfMessage: The Letter to Dr. Norman Augustine Commission